DAVID Y. IGE
GOVERNOR

LATE

TESTIMONY BY:

JADE T. BUTAY
DIRECTOR

Deputy Directors
ROSS M. HIGASH
EDUARDO P. MANGLALLAN
PATRICK H. MCCAIN
EDWIN H. SNIFFEN

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

February 8, 2022
3:15 P.M.
State Capitol, Teleconference

S.B. 2803
RELATING TO CLIMATE CHANGE

Senate Committee(s) on Government Operations & Transportation

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The Department of Transportation (DOT) **supports** the intent of this measure that requires all state, county, and private bus operators to upgrade to zero emission buses by 2035.

The DOT is committed to meeting the state's clean energy goals and strongly supports the wide-spread adoption of electric vehicles. While the department is in the process of transitioning its light-duty fleet to electric vehicles, it recognizes the current regulatory, commercial, and budgetary constraints associated with the transition of heavy-duty vehicles and buses.

The department's Statewide Transportation Planning Office is responsible for coordination with the counties and the Federal Transit Administration (FTA) to manage grand funds for Hawaii's rural transit programs – including the federal funds for the purchase of buses – in counties outside the City and County of Honolulu. The DOT defers to the counties to speak to the feasibility of conversion of their respective fleets to zero emission vehicles by 2035. However, in consideration of the FTA's fleet management requirements related to vehicle useful life, the vehicles currently available on the market, the price significant differences between diesel and zero emission vehicles, and the need for charging/fueling facilities to accommodate new vehicles, additional appropriations and specific procurement flexibility not included in this measure are required to ensure the state and county bus operators can meet this goal by 2035.

Thank you for the opportunity to provide this testimony.

DAVID Y. IGE
GOVERNOR

KEITH T. HAYASHI
INTERIM SUPERINTENDENT

STATE OF HAWAI`I
DEPARTMENT OF EDUCATION
P.O. BOX 2360
HONOLULU, HAWAI`I 96804

Date: 02/08/2022
Time: 03:15 PM
Location: Via Videoconference
Committee: Senate Transportation
Senate Government Operations

Department: Education

Person Testifying: Keith T. Hayashi, Interim Superintendent of Education

Title of Bill: SB 2803 RELATING TO CLIMATE CHANGE.

Purpose of Bill: Requires all state, county, and private bus operators to upgrade to zero emission buses by 2035.

Department's Position:
The Hawaii State Department of Education (Department) supports the intent of SB 2803 and respectfully shares concerns regarding bus contractors' ability to transition to a zero-emissions fleet without disruption in transportation services to schools given the highly complex nature of the transition requirements.

These challenges include:

1) Timing: Current and future bus contracts need to be aligned with this new provision. Bus contractors will need to modify their supply chain and work with the local electric utility company on the installation of the charging stations. Training will need to be developed for drivers and bus maintenance.

2) Infrastructure: Most bus base yards are rented or leased so property owners must agree to the installation of charging stations. Base yards do not have sufficient technology to maintain an electric fleet. Neighbor island bus maintenance facilities also do not have the infrastructure for electric buses.

3) Cost: Upfront costs for electric buses are higher than that of traditional buses and there is some uncertainty on how costs will be passed on to the Department.

4) Additional Considerations: Bus routes on neighbor islands may put strain on the

battery capacity due to elevations and distance. In particular, electric buses would struggle servicing Hawaii Island.

Mahalo for the opportunity to provide testimony on this measure.

TESTIMONY OF
JAMES P. GRIFFIN, Ph.D.
CHAIR, PUBLIC UTILITIES COMMISSION
STATE OF HAWAII

TO THE
SENATE COMMITTEES ON
TRANSPORTATION
AND
GOVERNMENT OPERATIONS

February 8, 2022
3:15 p.m.

Chair Lee, Chair Moriwaki, and Members of the Committees:

MEASURE: S.B. No. 2803
TITLE: RELATING TO CLIMATE CHANGE.

DESCRIPTION: Requires all state, county, and private bus operators to upgrade to zero emission buses by 2035.

POSITION:

The Public Utilities Commission ("Commission") offers the following comments for consideration.

COMMENTS:

The Commission supports the intent of this measure to facilitate the adoption of zero emission buses.

Among other provisions, this measure would prohibit the Commission, after December 31, 2034, from issuing a permit or certificate of public convenience and necessity ("CPCN") to a regulated motor carrier that does not use zero emission buses for the transport of more than fifteen passengers. This measure would also void any such permit or CPCN beginning January 1, 2035, absent prior notice or action by the Commission.

The Commission believes that transitioning toward zero-emission public transportation is an important component of the State's energy, transportation, and greenhouse gas

reduction goals. Should this measure be adopted, the Commission will ensure regulated motor carriers comply with the measure's requirements.

Thank you for the opportunity to testify on this measure.

HAWAII STATE ENERGY OFFICE
STATE OF HAWAII

DAVID Y. IGE
GOVERNOR

SCOTT J. GLENN
CHIEF ENERGY OFFICER

235 South Beretania Street, 5th Floor, Honolulu, Hawaii 96813 Telephone: (808) 587-3807
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804 Web: energy.hawaii.gov

Testimony of
SCOTT J. GLENN, Chief Energy Officer

before the
SENATE COMMITTEE ON TRANSPORTATION
AND
COMMITTEE ON GOVERNMENT OPERATIONS

Tuesday, February 8, 2022
Time 3:15 PM
State Capitol, Via Videoconference

SUPPORT
SB 2803
RELATING TO CLIMATE CHANGE.

Chairs Lee and Moriwaki, Vice Chairs Inouye and Dela Cruz, and Members of the Committees, the Hawai‘i State Energy Office (HSEO) offers comments on SB 2803, which Requires all state, county, and private bus operators to upgrade to zero emission buses by 2035.

According to the Department of Health Greenhouse Gas Inventory for 2017 transportation made up over half of energy emissions. Ground transportation made up forty seven percent of all transportation emissions making ground transportation a key segment for emission reductions. Hawaii has been moving aggressively to address the emissions from transportation with the passage of Act 74 setting the goal to transition the state’s light duty fleet by 2035 and prohibiting the procurement of internal combustion engine passenger vehicles starting January 1, 2022. Act 74 also updated procurement guidelines to incorporate medium- and heavy-duty (MHD) vehicles putting a priority on the procurement of (1) zero-emission vehicles, (2) plug-in hybrid electric vehicles, (3) alternative fuel vehicles, and (4) hybrid electric vehicles.

Hawai‘i has also signed onto the Multi-State Medium-and Heavy-Duty Zero Emission Vehicle (ZEV) MOU setting a goal, among other things, that 30% of all

medium- and heavy-duty vehicle sales are ZEVs by 2030 and 100% by 2050. The HSEO, in collaboration with the Hawai‘i Department of Health – Clean Air Branch, has launched the Diesel Replacement Rebate (DRR) program to support the adoption of MHD ZEVs by both the public and private sector. The DRR program leverages the Environmental Protection Agency (EPA) Diesel Emission Reduction Act and Volkswagen Settlement funds to receive a bonus incentive from the EPA to fund rebates here in Hawaii. The HSEO is also working with the Hawaii Department of Transportation, Hawaii County, Kauai County, and Maui County on a zero-emission bus program with the goal of funding four ZEV transit buses for each county leveraging Federal Transit Administration Low-No Program grants and Volkswagen Settlement funds.

To achieve a net-negative carbon economy as soon as practicable and no later than 2045 ground transportation needs to be addressed. The transit and school bus sector play an important role in ensuring the decarbonization of transportation is equitable, serving communities other than those who are served predominantly by single passenger vehicles. The HSEO has reached out to affected agencies and stands ready to collaborate on the adoption of ZEV buses.

HSEO supports this bill provided that its passage does not replace or adversely impact priorities indicated in the Executive Supplemental Budget.

Thank you for the opportunity to testify.

DAVID Y. IGE
GOVERNOR

BONNIE KAHAKUI
ACTING ADMINISTRATOR

STATE OF HAWAII
STATE PROCUREMENT OFFICE
P.O. Box 119
Honolulu, Hawaii 96810-0119
Tel: (808) 586-0554
email: state.procurement.office@hawaii.gov
http://spo.hawaii.gov

TESTIMONY
OF
BONNIE KAHAKUI, ACTING ADMINISTRATOR
STATE PROCUREMENT OFFICE

TO THE SENATE COMMITTEES
ON
TRANSPORTATION
AND
GOVERNMENT OPERATIONS

FEBRUARY 8, 2022, 3:15 P.M.

SENATE BILL 2803
RELATING TO CLIMATE CHANGE

Chair Lee, Chair Moriwaki, Chair Lee, Vice Chair Inouye, Vice Chair Dela Cruz, and members of the committees, thank you for the opportunity to submit testimony on SB2803. The State Procurement Office (SPO) offers the following comments and recommendations:

COMMENTS: The Hawaii Procurement Code (Code) is meant for general procurement methods at a high-level. It should not be a receptable for all industry-specific specifications or goals as this will, over time, create a vast, and complicated Code that will confuse buyers because they will not be able to trust that specifications are in the respective chapter and procurement specific requirements are lost within the sea of specifications.

RECOMMENDATION: SPO proposes removing Section 3, page 4, lines 1-14 to read as follows:

~~(b) Regarding the procurement of motor vehicles capable of transporting more than fifteen passengers, the procurement policy board shall promptly adopt all rules necessary to transition to one hundred per cent zero emission buses as quickly as possible, but no later than January 1, 2035. As used in this subsection:~~

~~"Pollutant" mean hydrocarbons, carbon monoxide, carbon dioxide, nitrogen oxides, and lead.~~

~~"Zero emission bus" means a motor vehicle capable of transporting more than fifteen passengers that produces zero~~

~~exhaust emissions of any pollutant and includes battery-electric powered buses and hydrogen fuel cell-electric powered buses, but does not include any vehicle, locomotive, or car operated exclusively on a rail or rails.~~

SPO appreciates the intent of SB2803 but feels the intent of the bill is already sufficiently covered in the following sections:

Section 5, page 6, lines 13-18:

and necessity; otherwise the application shall be denied. The commission shall not issue any certificate covering the transportation of more than fifteen passengers for any period after December 31, 2034, unless the commission finds that all of the motor vehicles covered by the certificate are zero emission buses.

Section 7, page 13, lines 18-21:

(e) Commencing January 1, 2035, any certificate or permit covering the transportation of more than fifteen passengers in a motor vehicle that is not a zero emission bus shall be void without prior notice or action by the commission."

Section 8, page 14, lines 10-15 and page 15, line 1-2:

standards described in section 286—181. Commencing July 1, 2022, the State shall not enter into any school bus contract for a term that extends past January 1, 2035, unless the bus that is the subject of the contract is a zero emission bus. Commencing January 1, 2035, the State shall not enter into any school bus contract unless the bus that is the subject of the contract is a zero emission bus. As used in this subsection:
"Pollutant" mean hydrocarbons, carbon monoxide, carbon dioxide, nitrogen oxides, and lead.
"Zero emission bus" means a motor bus that produces zero exhaust emissions of any pollutant and includes battery—electric powered buses and hydrogen fuel cell—electric powered buses, but does not include any vehicle, locomotive, or car operated exclusively on a rail or rails."

Thank you.

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 3RD FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 768-8305 • Fax: (808) 768-4730 • Internet: www.honolulu.gov

LATE

RICK BLANGIARDI
MAYOR

J. ROGER MORTON
DIRECTOR

JON Y. NOUCHI
DEPUTY DIRECTOR

TESTIMONY OF J. ROGER MORTON
DIRECTOR OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

BEFORE THE SENATE COMMITTEE ON TRANSPORTATION and
SENATE COMMITTEE ON GOVERNMENT OPERATIONS
Tuesday, February 8, 2022, 3:15 PM, Via Videoconference

TO: Senator Chris Lee, Chair, and Members of the Committee on Transportation
Senator Sharon Y. Moriwaki, Chair, and Members of the Committee on Government Operations

RE: COMMENTS ON SENATE BILL 2803, RELATING TO CLIMATE CHANGE.

The Department of Transportation Services (DTS) of the City and County of Honolulu (City), offers the following comments on Senate Bill 2803 (SB 2803), relating to climate change. DTS strongly supports the intent of SB 2803 and will aspire to meet the 2035 deadline; however, logistical and financial constraints in the procurement of zero-emission electric buses, and the regulated retirement of buses purchased with federal assistance will make the goal challenging.

Consistent with the City Council's commitment in Resolution 17-166 to sustainable transportation through the purchase of zero-emission buses, DTS has in the last several years begun purchasing and deploying zero-emission electric transit buses as part of its long-term bus fleet management and procurement plan. Currently, DTS has seventeen electric buses online, which is about three percent of DTS' total operating fleet with the remaining fleet being diesel or diesel-hybrid buses.

The purchase of electric buses cannot precede the available charging infrastructure and capacity. DTS must continue to procure diesel buses until sufficient charging infrastructure and capacity has been constructed to increase the deployment of electric buses. And because federal funds will be used to purchase the diesel buses, DTS may not be able to retire these buses by 2035. Federal Transportation Administration Circular FTA 5010.1E requires that for large transit buses that are procured with federal assistance, the minimum useful life that the bus must be operated and maintained by the grant recipient is 12 years or an accumulation of at least 500,000 miles, whichever comes first. Because it takes at least two years for buses to be delivered, buses that are purchased today would not be in operation until at least 2024, and federal funding would require the buses to be in operation until at least 2036.

DTS is currently on track to replace its diesel and hybrid-diesel bus fleet with electric buses by 2040 at a projected cost of approximately $75 million per year for electric buses, Handi-Vans, and charging infrastructure. Based on the available local and federal funding over the projected procurement plan, it would be challenging to accelerate the transition to a fully zero-emission electric bus fleet by the 2035 deadline.

Mahalo for your commitment to environmental protection and for the opportunity to comment on SB 2803.

TESTIMONY BEFORE THE SENATE COMMITTEES ON TRANSPORTATION AND GOVERNMENT OPERATIONS

SB 2803

Relating to Climate Change

February 8, 2022
3:15 PM, Agenda Item #5
State Capitol, VIDEO CONFERENCE

June Chee
Program Manager, Electrification of Transportation
Hawaiian Electric Company

Aloha Chair Lee, Chair Moriwaki, Vice Chair Inouye, Vice Chair Dela Cruz, and Committee Members,

My name is June Chee, and I am testifying on behalf of Hawaiian Electric Company **in support of SB 2803**, as it requires state, county, and private bus operators to upgrade to zero emission buses by 2035.

Hawaiian Electric in partnership with Electric Power Research Institute has been running an Electric School Bus Pilot to demonstrate and analyze electric bus (eBus) technology and its ability to adequately serve various driving distances, terrains, charging schedules, and school programs. During the pilot, the demonstration eBus will have operated on State Department of Education routes, a Kamehameha Schools commuter route, and field trips, sports, and special event routes with Punahou School. Hawaiian Electric's Charge Up eBus pilot is also launching this month and will simplify and reduce charging installation costs for bus operators. The Company will manage the design, permitting, construction, and maintenance of all the electrical infrastructure up to

the charge station at up to 10 sites on Oahu, Maui, and Hawaii Island. The Electric School Bus and Charge Up eBus pilots will provide valuable insight into the integration of eBuses and charging equipment for customers like state, county, and private bus operators. Additionally, lessons learned from the pilot may help to inform the 2035 directive proposed in this measure.

Hawaiian Electric Company has a focused support and momentum to decarbonize Hawaii's ground transportation by providing products and offerings that benefit all our customers and anticipating the charging needs for future EV drivers and riders across our service territory. Hawaiian Electric Company is in support of SB2803 as it provides a sustainable strategy to help create a bridge to a cleaner, more equitable future for Hawaii. Thank you for this opportunity to testify.

Hawaii Transportation Association
Driving Hawaii's Economy

February 8, 2022

TESTIMONY BEFORE THE SENATE COMMITTEES ON TRANSPORTATION, AND ON GOVERNMENT OPERATIONS ON SB 2803 RELATING TO CLIMATE CHANGE

Thank you Chair Lee, Chair Moriwaki, and committee members. I am Gareth Sakakida Managing Director of the Hawaii Transportation Association (HTA) with over 350 members involved with the commercial ground transportation industry.

HTA opposes this bill.

Unlike county mass transit systems, the PUC passenger carrier industry relies on private funds which has been zero for much of the past two years. There are operations that have not even re-opened yet.

Those carriers who are operating are not fully staffed until revenue flows are more stable, and the fluid pandemic situation makes that projection too difficult to reasonably make.

The bottom line is everyone is still struggling to survive. Imposing a deadline to turn over fleets with vehicles costing triple the amount of current vehicles is not something anyone is in a position to achieve.

This is why we support the State's Diesel Replacement Rebate program. All carriers need assistance in order to pay for fleet upgrades.

The nature of buses being a mass transit style of operator, and the technological advances with diesel particulate filters and exhaust cleaning enables these operations to leave a smaller footprint than most modes.

A diesel particulate filter captures and stores exhaust soot in order to reduce emissions.

Exhaust gas cleaning channels the exhaust gases back to the engine, and mixes them with the inlet air resulting in a 50% reduction of the nitric oxide level and a 90% reduction in carcinogenic particulates, hydrocarbons and carbon monoxide.

Mahalo.

Email: communications@ulupono.com

SENATE COMMITTEES ON TRANSPORTATION AND GOVERNMENT OPERATIONS
Tuesday, February 8, 2022 — 3:15 p.m.

Ulupono Initiative supports SB 2803, Relating to Climate Change.

Dear Chair Lee, Chair Moriwaki and Members of the Committees:

My name is Micah Munekata, and I am the Director of Government Affairs at Ulupono Initiative. We are a Hawai'i-focused impact investment firm that strives to improve the quality of life throughout the islands by helping our communities become more resilient and self-sufficient through locally produced food; renewable energy and clean transportation; and better management of freshwater and waste.

Ulupono supports SB 2803, which requires all state, county and private bus operators to upgrade to zero-emission buses by 2035.

Ulupono supports the State's transition overall transition to zero-emission vehicles, including buses for state, county and private use. The State currently maintains goals for 100% clean energy by 2045 and 100% zero-emission vehicles for the State light-duty fleet by 2035. Additionally, each county has supported the transition of all county fleets to 100% renewable energy by 2035. In fact, the City and County of Honolulu has been extremely active in transitioning to electric buses since December 2020.

We appreciate the State's efforts to provide clean transportation options for our community as we look to tackle the many devastating effects of climate change.

Thank you for this opportunity to testify.

Respectfully,

Micah Munekata
Director of Government Affairs

Statement of
Roxana Bekemohammadi
Founder and Executive Director
United States Hydrogen Alliance
before the

Senate Committee on Government Operations
and the
Senate Committee on Transportation

Tuesday, February 8, 2022
3:15PM
State Capitol, Videoconference

in SUPPORT of
SB 2803
RELATING TO CLIMATE CHANGE

Aloha Chairs Moriwaki and Lee, Vice-Chairs Dela Cruz and Inouye, and Members of the Committees:

Thank you for the opportunity to provide comments on Senate Bill (SB) 2803.

The United States Hydrogen Alliance (USHA) is a non-profit organization comprised of companies deploying hydrogen fuel and fuel cell technologies. USHA's mission is to educate and advocate for greater adoption of hydrogen fuel and fuel cell technologies in commercial and industrial applications across the U.S. Hydrogen fuel and fuel cell technologies have proved to be a viable decarbonization strategy to combat climate change, especially in transport, power generation, utility, industrial applications.

The United States Hydrogen Alliance supports SB 2803, which ensures that the State of Hawaii benefits from the utilization of zero emission buses. We commend Senator Wakai for identifying that heavy emitting buses that contribute to climate change may actually be upgraded to zero emission technology in the near-term. Zero emission bus technology is

commercial today and tens of thousands are operating currently across the globe. SB 2803 also protects Hawaiians from harmful and carcinogenic criteria pollutants that contribute to poor air quality that exacerbate preexisting health conditions, in addition to causing detrimental health ailments.

We appreciate the State Legislature's dedication to mitigating climate change and protecting the health of Hawaiians. Thank you for the opportunity to testify on SB 2803.

Very sincerely,

Roxana Bekemohammadi
Founder and Executive Director
United States Hydrogen Alliance

February 7, 2022

From: Hawaii Hydrogen Alliance

Re: SB2803

Relating to Climate Change

To the Committee on Transportation and Governance:

The State of Hawai'i faces an uncertain future due to climate change and sea-level rise. Action is needed NOW to prevent further damage to our natural resources and our economy. Fossil-fuel usage in commercial vehicles is an archaic strategy that has room for improvement. Most commercial vehicles travel only 5-10 miles per gallon of fuel, which results in more emissions in the air we breathe.

Hydrogen is a zero-emissions energy resource that can be used in commercial transportation vehicles – thus avoiding drilling into the earth for oil, as well as the extraordinary measures taken to deliver that oil from Point A to Point B. Various technologies exist today that can produce hydrogen all around Hawai'i, bringing economic relief to the hard-working citizens of the state.

We urge you to pass SB2803 and take the necessary leadership to ensure our air is protected.

Mahalo,

Chuck Collins

Board Member

admin@hawaiihydrogenalliance.com

ADA HAWAI'I
AMERICANS FOR DEMOCRATIC ACTION

OFFICERS
John Bickel, President
Alan Burdick, Vice President
Dave Nagajji, Treasurer
Doug Pyle, Secretary

DIRECTORS
Melodie Aduja
Keola Akana
Juliet Begley
Stephanie Fitzpatrick
Jan Lubin
John Miller
Jenny Nomura
Stephen O'Harrow
Bill South
Zahava Zaidoff

MAILING ADDRESS
P.O. Box 23404
Honolulu
Hawaii 96823

February 6, 2022

TO: **Chairs Morwaki & Lee and Members of GOV/TRS Committees**

RE: **SB 2803 Relating to Climate Change**

Support for a Hearing on February 8

Americans for Democratic Action is an organization founded in the 1950s by leading supporters of the New Deal and led by Patsy Mink in the 1970s. We are devoted to the promotion of progressive public policies.

Americans for Democratic Action Hawaii supports this bill as it would require all state, county, and private bus operators to upgrade to zero emission buses by 2035. We support the transition to zero carbon emissions. This bill is a step in that direction.

Thank you for your consideration.

Sincerely,

John Bickel, President

PACIFIC BIODIESEL
TECHNOLOGIES

40 Hobron Avenue
Kahului, Hawaii 96732
(808) 877-3144
www.biodiesel.com

February 7, 2022

TESTIMONY ON SB 2803, RELATING TO CLIMATE CHANGE
Requires all state, county, and private bus operators to upgrade to zero emission buses by 2035.

AGAINST

Rep. Chris Lee, Chair
Committee on Transportation
Hearing at 3:15PM on Tuesday, February 8, 2022, via Videoconference

Aloha Chair Lee and Members of the Committee,

Pacific Biodiesel **is <u>strongly against</u> SB 2803**. Before Hawaii spends millions on new EVs, what are the real gains, the true lifecycle costs and the comparative benefits to Hawaii's environment and economy?

We support a BALANCED mix of renewables in Hawaii, including both biofuels and zero emission vehicles. But today, the race to procure all new EVs is largely overlooking the benefits of biofuels for existing vehicles. The fact is ***any vehicle with an internal combustion engine can be fueled with <u>biofuel</u> – such as E85 (for gasoline engines) or a high blend of biodiesel (in diesel engines).***

Mandating consumers, companies and taxpayers to pay for entirely new zero emission vehicles while ignoring the abundant environmental and economic benefits of readily available biofuels is not equitable. Biofuels simply require vehicle owners to switch their fuel, not purchase an entirely new vehicle. And biofuels utilize existing infrastructure to deliver liquid fuels to the marketplace.

Most important, waiting to transition all transportation vehicles to "zero emission" simply does not reduce GHG emissions quickly enough. Each day of delay allows cumulative CO2 to continue accumulating in the atmosphere and exacerbating the destructive effects of climate change. High-blend biofuels in existing vehicles help reduce GHG emissions NOW.

Last summer, a California Air Resources Board (CARB) report* shared findings that **total greenhouse gas (GHG) reductions from biomass-based diesel were <u>3x</u> the total reductions from electric vehicles.** In Hawaii, where the carbon intensity of our electricity grid is significantly higher than the US average, the assumption would be an even greater GHG reduction with the use of 100% biodiesel compared to EVs charged by an electricity grid that's currently only 30% powered by renewables.

Biodiesel is by far the lowest lifecycle GHG transportation fuel in Hawaii today. When the electric grid becomes 100% renewable and batteries are produced using 100% renewable energy, then electric vehicles may match the lifecycle GHG of 100% biodiesel fueled vehicles.

(continued)

Please note:

- Biodiesel is a direct replacement for petroleum diesel fuel – fossil fuel.
- Biodiesel is 100% renewable, biodegradable and non-toxic.
- Biodiesel helps reduce greenhouse gas emissions by 86% compared to petroleum diesel fuel.
- Biodiesel can be used in any diesel engine without modification, using existing diesel engines and existing infrastructure.
- Biodiesel is a readily available firm power source that provides a reliable backup to other renewables in Hawaii like solar and wind that fluctuate in availability.
- Local biodiesel is produced from used cooking oil recycled from restaurants statewide as well as from sustainably farmed biofuel crops like sunflowers (the plants sequester CO2 from the atmosphere), creating a "net carbon negative" renewable fuel system that's a beneficial circular economy model for Hawaii.
- In looking at the lifecycle comparison, although technology is advancing, today's EVs utilize batteries made from raw materials like lithium and cobalt that are extracted in foreign countries (often resulting in ecological degradation and human rights abuses), the batteries are manufactured in foreign countries (posing potential supply chain issues with a reliance on foreign sources), and the batteries offer a relatively short lifespan and limited options for recycling. Although emissions are eliminated at the tailpipe, the total lifecycle impact of zero emission vehicles must be considered.

Mahalo for the opportunity to provide testimony on this important topic – we hope it sparks consideration for a more balanced, strategic road to 100% clean transportation in Hawaii.

Mahalo,

Joy Galatro
Marketing Director
Pacific Biodiesel
jgalatro@biodiesel.com
(808) 866-5104

*Biobased Diesel Daily, 5/15/21: https://www.biobased-diesel.com/post/biobased-diesel-outperforms-electric-vehicles-3-to-1-in-california-ghg-reductions

To: The Senate Committee on Transportation (TRS)
and
The Senate Committee on Government Operations (GVO)
From: Sherry Pollack, 350Hawaii.org
Date: Tuesday, February 8, 2022, 3:15pm

In support of SB2803

Aloha Chairs Lee and Moriwaki, Vice Chairs Inouye and Dela Cruz, and members of the TRS and GVO committees,

I am Co-Founder of the Hawaii chapter of 350.org, the largest international organization dedicated to fighting climate change. 350Hawaii.org **supports SB2803 with some suggested amendments**.

This measure which requires all state, county, and private bus operators to upgrade to zero emission buses is an important step forward to ensure that Hawaii is taking meaningful action to reduce greenhouse gas emissions in the ground transportation sector.

However, Hawaii will need to begin to transition our fleets well before this target date. To ensure the success of this transition, we suggest benchmarks be established for purchasing new buses. For example, starting in 2029, mass transit agencies in California will only be allowed to buy buses that are fully electric, with interim benchmarks that include starting in 2023 in which a quarter of their new buses must be electric, etc.

Secondly, we strongly urge that the definition of "hydrogen fuel cell" specify hydrogen not made from burning wood or fossil fuels. Both of these stipulations are essential if we are to achieve the necessary goal of zero emissions.

Bottomline, zero-emission vehicles are better for the environment and the economy. They are the future for Hawaii, a future we need to begin now.

Thank you for your kind consideration of the above amendments and for the opportunity to testify in support of this very important bill.

Sherry Pollack
Co-Founder, 350Hawaii.org

Roberts Hawaii

LATE

February 7, 2022

Honorable Chairs Chris Lee & Sharon Moriwaki,
Vice Chairs Lorraine Inouye & Donovan Dela Cruz,
& Members of the Senate Committee on Transportation and Senate Committee on Government Operations

Re: Testimony in Support of S.B. 2803 – Relating to Climate Change

Chairs Lee and Moriwaki, Vice-Chairs Inouye and Dela Cruz, and Members of the Senate Committee on Transportation and Senate Committee on Government Operations:

Roberts Hawaii ("Roberts") ***supports*** the intent of Senate Bill 2803, which seeks to advance the State of Hawaii towards electrification of transportation for buses and vehicles with over 15 passengers. Roberts is taking an active role in adopting EV technology and strengthening our understanding of the opportunities and challenges in using the technology. Currently, we are operating an electric school bus and multiple electric transit vehicles. We intend to purchase additional EV buses this year and in future years as our non-EV fleet expires over time. Through these initial steps of exploring the use of EV technology, we would like to share the following points on the feasibility of moving to 100% zero emission buses ("EV buses") by January 1, 2035.

It will take time to develop all the essential components for achieving 100% EV buses.

A shift to EV technology will require a robust ecosystem, and there are many dependencies, stretching across a broad range of stakeholders. The system will need support from public and private funding sources, EV vehicle manufacturers, EV parts manufacturers, public officials and government agencies, transportation operators, utility providers, landowners, private businesses, and our workforce, especially drivers and mechanics who will need to be retrained. Our collective ability to move toward 100% electrification of buses by January 1, 2035 will depend upon the success of our collaboration and how quickly we can transform operations.

A flexible approach is required.

We are only in the infancy of our understanding of the capabilities, the opportunities, and the challenges of EV transportation. There are currently no government agencies or private bus operators within the State of Hawaii that operate EV fleets of any significant size. What this means is that, while we are starting to understand what it takes to operate and support a few vehicles, we do not yet have a thorough understanding of what will be required at scale – to operate and to maintain tens of thousands of EV buses statewide.

Moreover, since battery technology is still limited and evolving, questions remain on the range of EV buses and their capabilities. Consequently, it is too early to know the long-term impact on bus routes and schedules, baseyard locations, and the necessary power generation required to support fleets. Only as we start to scale, can we have a better understanding of how these factors will impact the quality and sustainability of the overall service.

In the meantime, the community has substantial needs for bus transportation on a daily basis. These services support schools, municipal transportation, group charters, and other essential needs. We

Roberts Hawaii

should expect to continue to depend upon and to purchase non-EV buses into the immediate future, not because the operators are against electrification but because this is simply a practical necessity. Bus manufacturers do not currently have sufficient manufacturing capacity to replace existing bus demand with all EV buses.

Based on the above, we must accept the reality that non-EV buses might need to be operated beyond January 1, 2035. Due to the need for ongoing evaluation and significant dependencies to achieving the transformation, private operators who are regulated by the PUC should not be penalized if they are unable to convert their fleet by the January 1, 2035 deadline.

Our collaboration with our government partners will dictate the pace and costs associated with the transition.

As this bill clearly recognizes, the pace of transition to EV will depend, in no small part, upon government agencies' efforts to shift to EV. We agree that government agencies need to continue to explore EV technology and what it may mean for their operations.

Instead of penalizing private operators that cannot meet the January 1, 2035 deadline, a more effective approach would be for government agencies to help them to achieve the State's goals and to incentivize behavior which encourages private operators to adopt EV technology. There are programs that exist today, through the U.S. Environmental Protection Agency and the Hawaii State Energy Office, which provide grants or rebates for private operators who replace non-EV vehicles with EV vehicles. Overall funding available is very limited. We believe increasing the amount of available funds would significantly help in advancing the pace of change. If these types of programs had more funding, private operators will have a better chance of replacing more non-EV buses and in implementing the necessary infrastructure by January 1, 2035.

In closing, we reiterate our support of the intent of S.B. No. 2803. As the State's largest ground operator with more than 1600 employees statewide, we will continue to be very proactive in adopting EV technology and in transitioning our fleet and workforce in the coming years.

Thank you for the opportunity to testify on this measure.

Sincerely,

Randy Baldemor
Executive Vice-President
Roberts Hawaii

SB-2803
Submitted on: 2/6/2022 8:50:48 PM
Testimony for TRS on 2/8/2022 3:15:00 PM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Ted Bohlen	Testifying for Climate Protectors Hawai‘i	Support	No

Comments:

The Honorable Chris Lee, Chair, The Honorable Lorraine Inouye, Vice Chair, and Members of the Senate Committee on Transportation and

The Honorable Sharon Moriwaki, Chair, The Honorable Donovan Dela Cruz, Vice Chair, and Members of the Senate Committee on Government Operations

From: Climate Protectors Hawai‘i (by Ted Bohlen)

Re: HB2803 RELATING TO CLIMATE CHANGE

Hearing Tuesday February 8, 202, 3:15 p.m.

Aloha Chair Lee, Vice Chair Inouye, and Members of the Senate Committee on Transportation:

The Climate Protectors Hawai‘i is a group focused on reversing the climate crisis and encouraging Hawai‘i to lead the world towards a safe and sustainable climate and future. The **Climate Protectors Hawai‘i STRONGLY SUPPORTS passage of HB2803!**

This bill will help Hawaii transition its buses from petroleum to zero emission vehicles by 2035. This will help Hawaii mitigate greenhouse gas emissions and move toward its goal of carbon negativity as soon as possible but not later than 2045.

Please pass this bill!

Mahalo!

Climate Protectors Hawaii (by Ted Bohlen)

SB-2803
Submitted on: 2/6/2022 3:53:24 PM
Testimony for TRS on 2/8/2022 3:15:00 PM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Gerard Silva	Individual	Oppose	No

Comments:

There is no Climet problem just a COMUNIST problem!!